

PM standard+0.02 g/mi, or the applicable NO_x standard+0.3 g/mi, or 2 times the applicable NMHC standard, or 2 times the applicable CO standard.

(6) A malfunction condition is induced in an electronic emission-related powertrain system or component not otherwise described in this paragraph (o) that either provides input to or receives commands from the on-board computer resulting in a measurable impact on emissions.

[65 FR 59965, Oct. 6, 2000, as amended at 66 FR 5189, Jan. 18, 2001; 68 FR 35799, June 17, 2003; 70 FR 75410, Dec. 20, 2005; 71 FR 51488, Aug. 30, 2006; 71 FR 78094, Dec. 28, 2006; 74 FR 8420, Feb. 24, 2009; 75 FR 25685, May 7, 2010; 76 FR 57377, Sept. 15, 2011; 79 FR 23708, Apr. 28, 2014]

§ 86.1806–17 Onboard diagnostics.

Model year 2017 and later vehicles must have onboard diagnostic (OBD) systems as described in this section. OBD systems must generally detect malfunctions in the emission control system, store trouble codes corresponding to detected malfunctions, and alert operators appropriately.

(a) Vehicles must comply with the 2013 OBD requirements adopted for California as described in this paragraph (a). California's 2013 OBD-II requirements are part of Title 13, §1968.2 of the California Code of Regulations, approved on July 31, 2013 (incorporated by reference in §86.1). The following clarifications and exceptions apply for vehicles certified under this subpart:

(1) For vehicles not certified in California, references to vehicles meeting certain California Air Resources Board emission standards are understood to refer to the corresponding EPA emission standards for a given family, where applicable. Use good engineering judgment to correlate the specified standards with the bin standards that apply under this subpart.

(2) Vehicles must comply with OBD requirements throughout the useful life as specified in §86.1805. If the specified useful life is different for evaporative and exhaust emissions, the useful life specified for evaporative emissions applies for monitoring related to fuel-system leaks and the useful life specified for exhaust emissions applies for all other parameters.

(3) The purpose and applicability statements in 13 CCR 1968.2(a) and (b) do not apply.

(4) The anti-tampering provisions in 13 CCR 1968.2(d)(1.4) do not apply.

(5) The requirement to verify proper alignment between the camshaft and crankshaft described in 13 CCR 1968.2(e)(15.2.1)(C) applies only for vehicles equipped with variable valve timing.

(6) The deficiency provisions described in paragraph (c) of this section apply instead of 13 CCR 1968.2(k).

(7) For emergency vehicles only, the provisions of 13 CCR 1968.2(e)(6.2.1) related to monitoring and identification of air-fuel ratio cylinder imbalance, as part of the fuel system monitoring, do not apply until model year 2020, unless the vehicle met the requirements in 2016 or earlier model years.

(8) Apply thresholds for exhaust emission malfunctions from Tier 3 vehicles based on the thresholds calculated for the corresponding bin standards in the California LEV II program as prescribed for the latest model year in CCR 1968.2(e)(1) through (3). For example, for Tier 3 Bin 160 standards, apply the threshold that applies for the LEV standards. For cases involving Tier 3 standards that have no corresponding bin standards from the California LEV II program, use the next highest LEV II bin. For example, for Tier 3 Bin 50 standards, apply the threshold that applies for the ULEV standards. You may apply thresholds that are more stringent than we require under this paragraph (a)(8).

(b) The following additional provisions apply:

(1) Model year 2017 and later vehicles must meet the OBD system requirements described in this paragraph (b)(1). When monitoring conditions are satisfied, test vehicles must detect the presence of a leak with an effective leak diameter at or above 0.020 inches, illuminate the MIL, and store the appropriate confirmed diagnostic trouble codes (DTCs) (13 CCR 1968.2 refers to these as fault codes). For a 0.020 inch leak, the DTC(s) shall be a generic SAE J2012 DTC that is specific to an EVAP system very small leak (e.g., P0456, P04EE, or P04EF) or an equivalent

manufacturer-specific DTC that we approve. Conduct testing using an O'Keefe Controls Co. metal "Type B" orifice with a diameter of 0.020 inches or an alternate orifice diameter approved under 13 CCR 1968.2(e)(4.2.3) or (e)(4.2.4).

(i) Use the methodology specified in 13 CCR 1968.2(h)(2.2) to select test vehicles to demonstrate that the OBD system is capable of detecting a 0.020 inch leak installed in the evaporative system, except that the manufacturer may use production-representative vehicles instead of the vehicle options specified in 13 CCR 1968.2(h)(2.3).

(ii) Perform tests in the laboratory, with or without a dynamometer, or on an outdoor road surface, as necessary to exercise the vehicle's ability to detect leaks in the evaporative system.

(iii) Perform at least two tests to evaluate the OBD system for leaks that are installed near the fuel fill pipe and near the canister. The implanted leak near the fuel fill pipe must be at the fuel cap or between the fuel cap and the fuel tank. The implanted leak near the canister must be in the vapor line between the canister and the fuel tank, or between the canister and the purge valve). If a vehicle has multiple canisters or fuel fill pipes, repeat the testing to evaluate the system for implanted leaks corresponding to each canister and fuel fill pipe. You may propose to implant leaks in different locations (e.g., near the purge valve); we will approve your alternate leak location if it more effectively demonstrates leak detection for your particular fuel system design.

(iv) If vehicle operation is needed to fulfill preconditioning (i.e., when engine-off tests require driving before vehicle shutdown to enable the engine-off monitor) or monitoring conditions for leak detection under this paragraph (b)(1) utilize an FTP cycle, Unified cycle, or some other specified operating cycle that will satisfy the approved monitoring or preconditioning conditions without the interference of approved deficiencies. Continue vehicle operation as needed to illuminate the MIL and store the appropriate DTCs.

(v) Emission measurements are not required during this OBD evaporative

system leak monitoring demonstration testing.

(vi) For test groups not selected for testing in a given model year, you may instead provide a statement in the application for certification, consistent with good engineering judgment, that vehicles meet leak-detection requirements based on previous OBD tests, development tests, or other appropriate information. For any untested test groups, the statement specified in § 86.1844-01(d)(8) applies with regard to the leak monitoring requirement. We may ask you to provide the data and other information that formed the basis for your statement. Select test groups in later model years such that testing will rotate to cover your whole product line over time.

(vii) Submit the following information in the application for certification:

(A) Describe the test sequence.

(B) Identify the driving cycle used and the time expired and distance driven before the MIL illuminated.

(C) Identify the ranges of in-use environmental and vehicle operating conditions for which the vehicle will not meet the leak-detection specifications described in this paragraph (b)(1). To meet this requirement, you may give us the same information you gave the California Air Resources Board regarding enable conditions for the evaporative system leak monitor.

(D) Identify the confirmed and permanent DTCs set by the OBD system during testing.

(E) Include the freeze frame information stored at the point the fault is detected.

(F) Include the SAE J1979 test results (e.g., Mode/Service \$06) corresponding to the DTCs that were stored during the test.

(viii) If you have one or more vehicle models in model year 2016 that do not comply with the leak requirements in 13 CCR 1968.2(e)(4), you may comply with the requirements of this paragraph (b)(1) in model year 2017 by substituting model year 2016 vehicles on an equal-percentage basis. Demonstrate this by calculating the percentage of vehicles subject to OBD requirements under this subpart that

meet the requirements of this paragraph (b)(1) in model years 2016 and 2017; the sum of these two percentage values must be at or above 100 percent. Any model year 2017 vehicles not meeting the requirements of this paragraph (b)(1), as allowed by this paragraph (b)(1)(viii), may not be counted as compliant Tier 3 vehicles under the alternative phase-in specified in § 86.1813–17(g)(2)(ii).

(2) For vehicles subject to the leak standard in § 86.1813, OBD systems must record in computer memory the result of the most recent successfully completed diagnostic check for a 0.020 inch leak. Someone must be able to use the data to determine the miles driven since the last check occurred, the pass/fail result, and whether there has been a check since the computer memory was last cleared (e.g., from a scan tool command or battery disconnect). The system may be designed to keep data only from the previous 750 miles of driving. (Note: This 750 mile requirement is related to the use of the OBD evaporative leak monitor in the leak test and should not be confused with either the minimum or maximum distance values specified in Table G–19 of SAE J1979.) The data must be reported in a standardized format consistent with other data required for the OBD system. The results must be scan-readable.

(3) For vehicles with fuel tanks exceeding 25 gallons nominal fuel tank capacity, you may request our approval for a leak threshold greater than 0.020 inches, up to a maximum value of 0.040 inches. We will generally approve a leak threshold equal to the standard that applies under § 86.1813.

(c) You may ask us to accept as compliant a vehicle that does not fully meet specific requirements under this section. Such deficiencies are intended to allow for minor deviations from OBD standards under limited conditions. We expect vehicles to have functioning OBD systems that meet the objectives stated in this section. The following provisions apply regarding OBD system deficiencies:

(1) Except as specified in paragraph (d) of this section, we will not approve a deficiency that involves the complete lack of a major diagnostic monitor,

such as monitors related to exhaust aftertreatment devices, oxygen sensors, air-fuel ratio sensors, NO_x sensors, engine misfire, evaporative leaks, and diesel EGR (if applicable).

(2) We will approve a deficiency only if you show us that full compliance is infeasible or unreasonable considering any relevant factors, such as the technical feasibility of a given monitor, or the lead time and production cycles of vehicle designs and programmed computing upgrades.

(3) Our approval for a given deficiency applies only for a single model year, though you may continue to ask us to extend a deficiency approval in renewable one-year increments. We may approve an extension if you demonstrate an acceptable level of effort toward compliance and show that the necessary hardware or software modifications would pose an unreasonable burden.

(d) For alternative-fuel vehicles, manufacturers may request a waiver from specific requirements for which monitoring may not be reliable for operation with the alternative fuel. However, we will not waive requirements that we judge to be feasible for a particular manufacturer or vehicle model.

(e) For alternative-fuel conversions, manufacturers may meet the requirements of § 86.1806–05 instead of the requirements of this section.

(f) You may ask us to waive certain requirements in this section for emergency vehicles. We will approve your request for an appropriate duration if we determine that the OBD requirement in question could harm system performance in a way that would impair a vehicle's ability to perform its emergency functions.

(g) The following interim provisions describe an alternate implementation schedule for the requirements of this section in certain circumstances:

(1) Manufacturers may delay complying with all the requirements of this section, and instead meet all the requirements that apply under § 86.1806–05, for any heavy-duty vehicles that are not yet subject to the Tier 3 standards in § 86.1816.

(2) Except as specified in this paragraph (g)(2), small-volume manufacturers may delay complying with all the

§ 86.1807-01

40 CFR Ch. I (7-1-14 Edition)

requirements of this section until model year 2022, and instead meet all the requirements that apply under § 86.1806-05 during those years. This provision does not apply for a vehicle model if it is identical to a 2016 vehicle model that was certified to meet California's OBD requirements under § 86.1806-05(j)(3). A vehicle model is considered identical to one from model year 2016 if it is certified in the current year based on the same test data for exhaust or evaporative emissions under the carryover data provisions of this subpart.

(3) Manufacturers may disregard the requirements of this section that apply above 8,500 pounds GVWR before model year 2019 and instead meet all the requirements that apply under § 86.1806-05. This also applies for model year 2019 vehicles from a test group with vehicles that have a Job 1 date on or before March 3, 2018 (see 40 CFR 85.2304).

[79 FR 23709, Apr. 28, 2014]

§ 86.1807-01 Vehicle labeling.

(a) The manufacturer of any motor vehicle subject to the applicable emission standards of this subpart, shall, at the time of manufacture, affix a permanent legible label, of the type and in the manner described in this section, containing the information prescribed in this section, to all production models of such vehicles available for sale to the public and covered by a Certificate of Conformity under § 86.1848-01.

(1) A permanent, legible label shall be affixed in a readily visible position in the engine compartment.

(2) The label shall be affixed by the vehicle manufacturer who has been issued the Certificate of Conformity for such vehicle, in such manner that it cannot be removed without destroying or defacing the label. The label shall not be affixed to any equipment which is easily detached from such vehicle.

(3) The label shall contain the following information lettered in the English language in block letters and numerals, which shall be of a color that contrasts with the background of the label:

(i) The label heading: Vehicle Emission Control Information;

(ii) Full corporate name and trademark of manufacturer;

(iii) Engine displacement (in cubic inches or liters), test group identification and evaporative/refueling family identification;

(iv) [Reserved]

(v) An unconditional statement of compliance with the appropriate model year U.S. EPA regulations which apply to light-duty vehicles, light-duty trucks, medium-duty passenger vehicles, or complete heavy-duty vehicles;

(vi) The exhaust emission standards (or FEL, as applicable) to which the test group is certified, and for test groups having different in-use standards, the corresponding exhaust emission standards that the test group must meet in use. In lieu of this requirement, manufacturers may use the standardized test group name designated by EPA;

(vii) [Reserved]

(viii) Vehicles granted final admission under 40 CFR 85.1505 must comply with the labeling requirements contained in 40 CFR 85.1510;

(ix) [Reserved]

(x) For vehicles designed to be capable of operating on fuels other than gasoline or diesel, the statement "This vehicle is certified to operate on [specify fuel(s)]".

(b) The provisions of this section shall not prevent a manufacturer from also reciting on the label that such vehicle (or engine) conforms to any applicable state emission standards for new motor vehicles (or new motor vehicle engines) or any other information that such manufacturer deems necessary for, or useful to, the proper operation and satisfactory maintenance of the vehicle (or engine).

(c)(1) The manufacturer of any light-duty vehicle, light-duty truck, medium-duty passenger vehicle, or heavy-duty vehicle subject to the emission standards of this subpart shall, in addition and subsequent to setting forth those statements on the label required by the Department of Transportation (DOT) pursuant to 49 CFR 567.4 set forth on the DOT label or on an additional label located in proximity to the DOT label and affixed as described in 49 CFR 567.4(b), the following information in the English language, lettered in block letters and numbers not less than three thirty-seconds of an inch